



Patent

Attorney Docket: 612,404-370

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of: •) Group Art Unit: 1645
Patrick N. Gilles et al.) Examiner: Not yet assigned
Serial No.: 09/727,030)
Filed: November 30, 2000)
For: SINGLE NUCLEOTIDE POLYMORPHIC DISCRIMINATION BY ELECTRONIC DOT BLOT ASSAY ON SEMICONDUCTOR MICROCHIPS))

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

3

Pursuant to 37 C.F.R. §1.56 and in accordance with 37 C.F.R. §§1.97–1.98, information relating to the above–identified application is hereby disclosed. The accompanying Form PTO/SB/08A provides a listing of documents that may be relevant to the subject application.

It is requested that the Examiner fully consider the art cited in the accompanying Form PTO/SB/08A, initial the left-most column of the form adjacent each cited reference, and return a copy for Applicants' records. It is further requested that the art be cited on the cover of any patent issuing from the subject application.

CERTIFICATE OF MAILING (37 C.F.R. §1.8a)

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as First Class Mail in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

1-22-04

Denise N. Doss

Date of Deposit IR1:1051684.1

Patent

Attorney Docket: 612,404-370

In accordance with §1.97(b), this Information Disclosure Statement is being filed before the mailing of a first Office Action on the merits of the above-identified application, and therefore no fee is required. If a first Office Action has been mailed, then please enter this Information Disclosure Statement and charge Deposit Account No. 50-2862 for any necessary fees.

In accordance with §1.98(d), copies of some or all of the references listed on the attached Form PTO/SB/08A are not enclosed herewith because they were previously cited by or submitted to the Patent and Trademark Office in prior Applications for which a claim for priority under 35 U.S.C. §120 has been made in the instant application. Accordingly, Applicants will provide duplicate copies in respect of the present case only if the Examiner so desires.

This statement should not be construed as a representation that more material information does not exist or that an exhaustive search of the relevant art has been made. Nor does this statement constitute an admission by Applicants or Applicants' agent that the information provided herein is necessarily prior art to Applicants' invention. Moreover, Applicants reserve the right to establish the patentability of the claimed invention over any of the listed documents should they be applied thereagainst as references. Please charge any deficiency or credit any overpayment to Deposit Account No. 50-2862.

Respectfully submitted,
O'MELVENY & MYERS LLP

Dated:	1/20104	By: () : & ()
		David B. Murphy
		Reg. No. 31,125
		Attorneys for Applicant

O'Melveny & Myers LLP 114 Pacifica, Suite 100 Irvine, CA 92618-3315 (949) 737-2900

4

PTO/SB/08A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031*
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Complete if Known **Application Number** 09/727,030 November 30, 2000 Filing Date Patrick N. Gilles, et al. First Named Inventor Group Art Unit 1645 Not Yet Assigned Examiner Name 612404-370 (form 259/163) Attorney Docket Number

	(use as many she	ets as	necessary)
Sheet	1	of	3

U.S. PATENT DOCUMENTS					
Examiner Initials *	U.S. Patent Document Kind Code ² (if known)		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	US-4,731,325		Palva et al	03/15/88	
	US-4,883,750		Whiteley et al	11/01/89	
	US-4,988,617		Landegren et al	01/29/91	
	US-5,030,557		Hogan et al	07/09/91	
	US-5,114,674		Stanbro et al	05/19/92	
	US-5,445,934		Fodor et al	08/29/95	
	US-5,474,895		lshii et al	12/12/95	
	US-5,516,641		Ullman et al.	05/14/96	
	US-5,573,907		Carrino et al	11/12/96	
	US-5,602,240		DeMesmaeker et al	02/11/97	
	US-5,635,352		Urdea et al	06/03/97	
	US-5,766,960		Cornell et al	06/16/98	
	US-5,789,167		Konrad	08/04/98	
	US-5,795,714		Cantor et al	08/18/98	
	US-5,811,269		Nadeau et al	09/22/98	
	US-5,849,486		Heller et al	12/15/98	
	US-5,849,544		Harris et al	12/15/98	
	US-5,908,745		Mirzabekov et al	06/01/99	
	US-5,965,452		Kovacs	10/12/99	
	US-6,054,270		Southern	04/25/00	
	US-6,150,095		Southern et al	11/21/00	
	US-6,207,373	B1	Sosnowski et al	03/27/01	
	US-6,306,348	B1	Havens et al	10/23/01	
	US-6,309,602	B1	Ackley et al	10/30/01	
	US-6,403,367	B1	Cheng et al	06/11/02	
	US-6,458,584	B1	Mirzabekov et al	10/01/02	

FOREIGN PATENT DOCUMENTS							
	For	eign Patent Do	cument	Name of Patentee	Date of Publication of	Pages, Columns, Lines,	
Examiner Initials*	Office ³	Number ⁴	Kind Code ⁵ (if known)	or Applicant of Cited Document	Cited Document MM-DD-YYYY	Where Relevant Passages or Relevant Figures Appear	T ₆
	EP	0320308	B1	Backman et al	11/03/93		
	wo	96/15271	A1	Carrino	05/23/96		•

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS				
Examiner Initials *	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume–issue number(s), publisher, city and/or country where published.	Τ²		
	AAAC, "Hemochromotosis More Prevalent Than Previously Believed", Clinical Laboratory News, 1999, vol. 25, no. 2.			
	BROUDE, N.E., et al. "Enhanced DNA Sequencing by Hybridization." Proc. Natl. Acad. Sci., 1994, 3072-3076, vol. 91.			

612404-370 (form 259/163)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO **INFORMATION DISCLOSURE**

Complete if Known Application Number 09/727,030 November 30, 2000 Filing Date First Named Inventor Patrick N. Gilles, et al. 1645 Group Art Unit Not Yet Assigned **Examiner Name**

(use as many sheets as necessary)

STATEMENT BY APPLICANT

Attorney Docket Number Sheet

	OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS	
Examiner nitials *	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T 2
	DAY, "Electrophoresis For Genotyping: Microtiter Array Diagonal Gel Electrophoresis On Horizontal Polyacrylamide Gels, Hydrolink, Agarose", Analytical Biochemistry, 1994, 389-395, vol. 222.	
	DROBYSHEV et al., "Sequence Analysis By Hybridization With Oligonucleotide Microchip: Identification of ß-Thalassemia Mutations, Gene 1997, 45-52, 188.	
	DROBYSHEV et al, "Massive Parallel Analysis Of DNA-Hoeschst 33258 Binding Specificity with A Generic Oligodeoxyribonucleotide Microchip", Nucleic Acids Research, 1999, 4100-4105, vol. 27, no. 20.	
	EDMAN, C.F., et al. "Electric Field Directed Nucleic Acid Hybridization On Microchips." Nucleic Acids Research, 1997, 4907-4914, vol. 25, no. 24.	
	FEDER, "The Hemochromatosis Founder Mutation In HLA-H Disrupts β2 Microglobulin Interaction & Cell Surface Expression", J.Biological Chemistry, 1997, 14025-14028, vol. 272, no. 22.	
	GUSCHIN et al., "Manual Manufacturing Of Oligonucleotide DNA, And Protein Microchips", Anal. Biochem., August 1, 1997, 203-211, vol. 250, no. 2.	
	HOLLAND, "Detection Of Specific Polymerase Chain Reaction Product By Utilizing The 5'→ 3' Exonuclease Activity of Thermus Aquaticus DNA Polymerase", Proc. Natl. Acad. Sci. USA, 1991, 7276-7280, vol. 88.	_
	HOWELL, "Dynamic Allele-Specific Hybridization: A New Method For Scoring Single Nucleotide Polymorphisms", Nature Biotechnology, 1999, 87, vol. 17.	
	KHRAPKO, "An Oligonucleotide Hybridization Approach to DNA Sequencing" FEBS, 1989, 118-122, vol. 256 (1&2).	
	KHRAPKO et al., "A Method For DNA Sequencing By Hybridization With Oligonucleotide Matrix", DNA Seq., 1991, 375, vol. 1, no. 6.	
	KIELECZAWA, "DNA Sequencing By Primer Walking With Strings of Contiguous Hexamers", Science, 1992, 1787, vol. 258.	
	KOTLER, "DNA Sequencing: Modular Primers Assembled From A Library Of Hexamers Or Pentamers", Proc. Natl. Acad. Sci. USA, 1993, 4241-4245, vol. 90.	_
	LANDEGREN, 'Reading Bits of Genetic Information: Methods For Single Nucleotide Polymorphism Analysis", Genome Research, 1998, 769-776, vol. 8.	
•	MALDONADO-RODREQUEZ et al., "Hybridization of Glass-Tethered Oligonucleotide Probes to Target Strands Preannealed with Labeled Auxiliary Oligonucleotides", Mol. Biotechnol., 1999, 1-12, vol. 11, no. 1.	
	MALDONADO-RODREQUEZ et al., "Mutation Detection By Stacking Hybridization On Genosensor Arrays", Mol. Biotechnol., 1999, 13-25, vol. 11, no. 1.	
	MEADE et al, "Electron Transfer Through DNA: Site-Specific Modification of Duplex DNA With Ruthenium Donors & Acceptors", Angew. Chem. Int. Ed. Engl., 1995, 353-354, vol. 34, no. 3.	
	NEWTON, "Analysis of Any Point Mutation in DNA. The Amplification Refractory Mutation System (ARMS)", 1989, Nucleic Acids Research, 1989, 2503, vol. 17, no. 7.	
	NORBERG, "Solvent Influence on Base Stacking", Biophysical Journal, 1998, 394-402, vol. 74.	
	ORITA, "Detection Of Polymorphisms Of Human DNA By Gel Electrophoresis As Single Strand Conformation Polymorphisms", Proc. Natl. Acad. Sci. USA, 1989, 2776-2770, vol. 86.	

the type a plus sign (+) inside this box →

of

Sheet

Approved for use through 10/31/2002. OMB 0651-0031*
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

612404-370 (form 259/163)

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Attorney Docket Number

INFORMATION DISCLOSURE
STATEMENT BY APPLICANT

(use as many sheets as necessary)

Complete if Known

Application Number

O9/727,030

Filing Date
November 30, 2000

First Named Inventor
Group Art Unit
1645

Examiner Name
Not Yet Assigned

	OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS	
Examiner Initials *	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume—issue number(s), publisher, city and/or country where published.	T²
	ORNSTEIN, "An Optimized Potential Function For The Calculation Of Nucleic Acid Interaction Energies. I. Base Stacking", Biopolymers, 1978, 2341-2360, vol. 17.	
	PARINOV, "DNA Sequencing By Hybridization To Microchip Octa- and Decanucleotides Extended By Stacked Pentanucleotides", Nucleic Acids Research, 1996, 2998-3004, vol. 24, no. 15.	
-	PATON, "Heterogeneity Of The Amino Acid Sequences Of Escherichica coli Shiga-like Toxin Type-I Operons, Gene, 1995, 71-74, vol. 153.	
	PIETERS, "Conformational & Thermodynamic Consequences Of The Introduction Of A Nick In Duplexed DNA Fragments: An NMR Study Augmented By Biochemical Experiments", Nucleic Acids Research, 1989, 4551, vol. 17, no. 12.	-
	SINDEN, "Introduction To The Structure, Properties & Reactions of DNA", <u>DNA Structure & Function</u> , 1994, Chapter 1, (Academic Press).	
	SOUTHERN, "DNA Chips: Analysing Sequence By Hybridization To Oligonucleotides On A Large Scale", Trends In Genetics, March 1996, 110-115, vol. 12, no. 3.	
	SYVANEN et al, "Fast Quantification Of Nucleic Acid Hybrids By Affinity-Based Hybrid Collection", Nucleic Acids Research, 1986, 5037-5048, vol. 14, no. 12.	
	SYVANEN et al, "Quantification Of Polymerase Chain Reaction Products By Affinity Based Hybrid Collection", Nucleic Acids Research, 1988, 11327-11338, vol. 16, no. 23.	
	SYVANEN, "A Primer Guided Nucleotide Incorporation Assay In Genotyping Of Apolipoprotein E", Genomics, 1990, 684-692, vol. 8.	
	TYAGI, "Molecular Beacons: Probes That Fluoresce Upon Hybridization", Nature Biotechnology, 1996, 303, vol. 14.	
	WANG, "Large Scale Identification, Mapping & Genotyping Of Single Nucleotide Polymorphisms In The Human Genome, Science, 1998, 1077, vol. 280.	
	WU, "Specificity Of The Nick-closing Activity Of Bateriophage T4 DNA Ligase", Gene, 1989, 245-254, vol. 76.	
	YERSHOV et al, "DNA Analysis & Diagnostics On Oligonucleotide Microchips", Proc. Natl. Acad. Sci. USA, May 1996, 4913-4918, vol. 93.	

Examiner	Date	
Signature	Considered	

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.